NATURAL RESOURCES CONSERVATION SERVICE

DOCUMENTATION REQUIREMENTS

UNDERGROUND OUTLET (620)

FIELD DATA

The following is a list of the minimum field data to be collected:

1. Plan view sketch showing layout, inlets, laterals, and relation with associated practice;
2. Profile of the underground outlet along proposed centerline(s);
3. Soils information and any special restrictions;
4. Special control or field features that must be considered in the design;
5. Elevations at proposed outlet, including channel bottom and base flow depth, if applicable.

DESIGN DATA

The following is a list of the minimum required design data:

1. Capacity requirements based on inflow from surface inlets and drainage laterals;
2. Size and design slopes of tubing or pipe;
3. Construction drawings shall include the following as a minimum:
   - Plan view including location map and all system components;
   - Profile view of ground surface and underground outlet;
   - Details of the outlet protection, animal guard, and other structural components needed;
   - Lime, fertilizer, and seeding requirements according to practice standard 342, Critical Area Planting (may be included as a specification instead);
   - Quantities of materials;
   - Critical Inspection Items;
   - Utilities statement and Excavation Safety statement.
4. Construction and material specifications;
5. Written Operation and Maintenance (O&M) plan.

PRE-CONSTRUCTION & INSPECTION

1. Preconstruction Meeting With Landowner And Contractor. This is a meeting to explain the drawings and specifications, discuss requirements for construction and material certifications, level of staking needed, safety issues, utilities notification, and other topics. Document the following as a minimum:
   - Time and date of meeting;
   - Names of attendees;
   - Items discussed and decisions made.
2. Layout And Staking Of Practices. Document:
   - Survey notes showing layout of the practices, including date and who performed the staking;
   - If the contractor provides staking, then document any reviews made to ensure proper placement of the practice.
3. Utilities Notification. Can use form ENG-5 and ENG-6 to assist in tracking utility notifications (See NEM §MA503). Document:
   - Initial discussion with landowner about his or her responsibility to notify utilities;
   - Information from landowner about existence and location of known utilities;
   - Assurances that utility company has been notified, including staking by utilities.
4. Inspection During Construction. Document:
   - All inspections made during construction, including all those identified on the drawings as critical inspection items;
   - Include visual inspections and conclusions, surveys, tests and test results;
   - Discussions with landowner and contractor;
   - Photographs taken before and during construction;

- Approval by designer of any changes from the drawings or specifications before implementation of the change.

CONSTRUCTION CHECK

The following is a list of the minimum required data to support the as-built drawing:

1. Measurements of inlet and outlet elevations, other key elevations, and depth of underground outlet;
2. Final location of lines installed;
3. Name of pipe or tubing manufacturer, product name, material, and applicable specification (for example, ASTM);
4. Length of each size of tubing or pipe;
5. Length, type, and size of outlet pipe;
6. Installed grade of each reach;
7. Adequacy of trash guard, animal guard, and other appurtenances, as applicable;
8. Seeding performed;
9. Materials documentation to certify quality as stated on drawings and specifications.

CERTIFICATION

The following is a list of what must be certified by a person with the required approval authority for the installed practice:

1. Final quantities and documentation for quantity changes;
2. Statement on the as-built drawings that the installed practices meet or exceed the requirements of the NRCS practice standards;
3. Record in the case file the total length of the underground outlet;
4. Report in PRMS, as applicable.